AMENDMENTS TO THE CLAIMS

1. (Original) A method for treating an implant surface intended for implantation into bone tissue c h a r a c t e r i s -e d in comprising:

providing fluorine and/or fluoride on at least a part of the implant surface, and $providing \ a \ microroughness \ having \ a \ root-mean-square \ roughness \ (R_q \ and/or \ S_q) \ of \leq 250$ nm.

2. (Original) A method for treating an implant surface intended for implantation into bone tissue c h a r a c t e r i s -e d in comprising:

providing fluorine and/or fluoride on at least a part of the implant surface, and providing a microroughness comprising pores having a pore diameter of $\leq 1~\mu m$ and a pore depth of $\leq 500~nm$.

- 3. (Original) A method according to claim 2, wherein the pore diameter is within the range of 50 nm to 1 µm and the pore depth is within the range of 50 to 500 nm.
- 4. (Currently Amended) A method according to claim 2 or claim 3, wherein a root-mean-square roughness (R_q and/or S_q) of ≤ 250 nm is provided.
- 5. (Currently Amended) A method according to any one of claims 1-4 claim 1, wherein an average atomic concentration of at least 0.2 at% fluorine and/or fluoride is provided.

6. (Original) A method according to claim 5, wherein the average atomic concentration of fluorine and/or fluoride is within the range of 0.4-7 at%.

- 7. (Currently Amended) A method according to any one of claims 1-6 claim 1, wherein the implant surface is a metallic implant surface.
- 8. (Original) A method according to claim 7, wherein the fluorine and/or fluoride and the microroughness are provided by treating the metallic implant surface with an aqueous solution of hydrofluoric acid.
- 9. (Original) A method according to claim 8, wherein the concentration of the hydrofluoric acid is less than 0.5 M.
- 10. (Original) A method according to claim 9, wherein the metallic implant surface is treated for an etching period of up to 180 sec at room temperature.
- 11. (Original) A method according to claim 10, wherein the concentration of the hydrofluoric acid is 0.1 M and the etching period is up to 60 sec at room temperature.
- 12. (Currently Amended) A method according to any one of claims 1-11 claim 1, further comprising providing a macroroughness on the implant surface prior to providing the fluorine and/or fluoride and prior to providing the microroughness.

13. (Original) A method according to claim 12, wherein the macroroughness is provided by blasting the implant surface.

- 14. (Currently Amended) A method according to any of claims 7-13 claim 7, wherein said metallic implant surface is made of commercially pure titanium or an alloy of titanium.
- 15. (Currently Amended) An implant for implantation into bone tissue having an implant surface at least part of which has been treated with a method according to any of claims 1-14 claim 1.
- 16. (Original) An implant for implantation into bone tissue having an implant surface c h a r a c t e r i s e d in that at least a part of the implant surface comprises fluorine and/or fluoride, and a microroughness having a root-mean-square roughness (R_q and/or S_q) of ≤ 250 nm.
- 17. (Original) An implant for implantation into bone tissue having an implant surface c h a r a c t e r i s e d in that at least a part of the implant surface comprises fluorine and/or fluoride, and a microroughness which comprise pores having a pore diameter of $\leq 1 \, \mu m$ and a pore depth of $\leq 500 \, nm$.
- 18. (Original) An implant according to claim 17, wherein the pore diameter is within the range of 50 nm to 1 μ m and the pore depth is within the range of 50 to 500 nm.

19. (Currently Amended) An implant according to claim 17-or claim 18, wherein the microroughness has a root-mean-square roughness (R_q and/or S_q) of ≤ 250 nm.

- 20. (Currently Amended) An implant according to any one of claims 16-19 claim 16, wherein the microroughness comprises peaks having a peak width, at half the pore depth, of from 15 to 150% of the pore diameter.
- 21. (Currently Amended) An implant according to any one of claims 16-20 claim 16, wherein at least a part of the implant surface has an average atomic concentration of at least 0.2 at% fluorine and/or fluoride.
- 22. (Original) An implant according to claim 21, wherein the average atomic concentration of fluorine and/or fluoride is within the range of 0.4-7 at%.
- 23. (Currently Amended) An implant according to any one of claims 16 22 claim 16, wherein the implant surface further comprises a macroroughness.
- 24. (Currently Amended) An implant according to any one of claims 16-23 claim 16, wherein said implant is a metallic implant.

25. (Original) An implant according to claim 24, wherein said metallic implant is made of commercially pure titanium or an alloy of titanium.

- 26. (Currently Amended) An implant according to any one of claims 16-25 claim 16, wherein the implant is a dental implant.
- 27. (Currently Amended) An implant according to any one of claims 16-25 claim 16, wherein the implant is an orthopaedic implant.